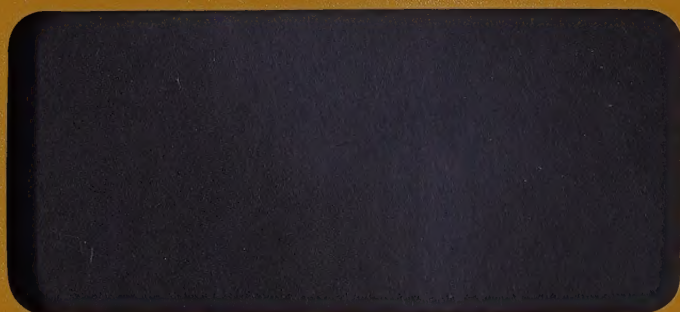


MODEL 6108 PLUG-IN

(10 MHz - 1000 MHz)

INSTRUCTION MANUAL

WILTRON



MODEL 6108 PLUG-IN

(10 MHz - 1000 MHz)

INSTRUCTION MANUAL

THEORY OF OPERATION

- 1-1 GENERAL
- 1-2 Z. P. GENERATOR AND LEVELER
- 1-3 FREQUENCY CONTROL
- 1-4 100 - 1000 MHz BAND
- 1-5 10 - 100 MHz BAND

RECALIBRATION PROCEDURES

- 2-1 INPUT EXHIBIT FROM THE TWO MAIN FRAMES
- 2-2 MECHANICAL INSPECTION
- 2-3 FREQUENCY CONTROL RECALIBRATION
- 2-4 LEVEL CONTROL RECALIBRATION
- 2-5 FREQUENCY CONTROL ADJUSTMENTS
- 2-6 LEVEL CONTROL ADJUSTMENTS
- 2-7 SIGNAL TRIMMING ADJUSTMENTS

PARTS LIST

SYMBOLS AND ABBREVIATIONS

SECTION I



490 JARVIS DRIVE • MORGAN HILL, CA 95037
TEL. (408) 778-2000 • TELEX 285-227

MODEL 6108
PLUG-IN (10 MHz - 1000 MHz)
INSTRUCTION MANUAL

TABLE OF CONTENTS
(Also see 610B MANUAL)

THEORY OF OPERATION

SECTION 1

- 1-1 GENERAL
- 1-2 R. F. GENERATOR AND LEVELER
- 1-3 FREQUENCY CONTROL
- 1-4 550 - 1000 MHz BAND
- 1-5 10 - 550 MHz BAND

RECALIBRATION PROCEDURE

SECTION 2

- 2-1 INPUT REQUIRED FROM THE 610B MAIN FRAME
- 2-2 6108 MECHANICAL INSPECTION
- 2-3 FREQUENCY CONTROL RECALIBRATION
- 2-4 LEVEL CONTROL RECALIBRATION
- 2-5 FREQUENCY CONTROL ADJUSTMENTS
- 2-6 LEVEL CONTROL ADJUSTMENTS
- 2-7 6108 TROUBLE SHOOTING GUIDE

PARTS LIST

SECTION 3

SCHEMATICS and FLOW DIAGRAM

SECTION 4

Copyright 1968

SECTION 1

MODEL 6108 PLUG-IN THEORY OF OPERATION

1-1 GENERAL

The Model 6108 divides the 10 to 1000MHz spectrum into two bands. The top band functions as a direct oscillator covering 550 to 1000 MHz. The lower band uses the heterodyne technique to generate 10 to 500 MHz which is amplified to deliver 1v rms at the output. Both bands utilize the same voltage controlled oscillator, isolation amplifier and PIN diode leveling attenuator. A coaxial switch makes the necessary circuit changes for band switching as shown in the 6108 flow diagram. A portion of the output is extracted for the birdie mixer.

1-2 R. F. GENERATOR AND LEVELER

The voltage controlled oscillator is a packaged transistor oscillator covering the range 550 to 1155 MHz for a control voltage of -1.5 to +60 volts. The output is link coupled to the isolation amplifier, Q602 of schematic 6108-600. The transistor Q601 acts as a saturating switch to provide collector voltage for the oscillator. For R.F. off during retrace the blanking signal opens the switch and no R.F. is generated. The isolation amplifier feeds an attenuator with one PIN diode in series and another in shunt. This configuration gives a wide dynamic range and maintains a good match so that the oscillator frequency does not change as the signal level is varied. A fixed bias current is provided by R625 which supplements the variable current from the emitter follower Q603. The base voltage of Q603 is near -18 volts for minimum attenuation and near 0 volts for maximum.

1-3 FREQUENCY CONTROL

The frequency control circuit shapes the input 10 volt ramp to a non-linear output of 60 volts in the manner described in the 610B theory of operation. The control loop will handle fm rates up to 3kHz, falling rapidly beyond this to the loop crossover frequency of 50 kHz. The shaping establishes the relation 0 to +10 volts input for 550 to 1155 MHz output. A divider at the input is controlled by the bandswitch, S601, so that the input 10 volt ramp becomes 0 to 7.4 to generate the high band and 0.91 to 10 to sweep the low band. See schematic 6108-800.

1-4 550-1000 MHz BAND

For this band the R.F. signal from the leveler is connected through a 1000MHz low-pass filter and a 10db directional coupler to the output terminal. The filter removes all harmonics and the coupler samples the incident energy which is detected and used for leveling. This establishes the 50 ohm output impedance. The level regulator amplifier (see 610B Theory of Operation) controls Q603 which drives the PIN diode leveler.

1-5 10-550 MHz BAND

The output of the leveler is switched to a 1155 MHz low-pass filter feeding a doubly balanced mixer. A high level fixed 605MHz signal from the oscillator Q861, see schematic 6108-800, is fed to the other mixer input. The difference frequency 0 to 550MHz is coupled through a 550 MHz low-pass filter to the power amplifier of schematic 6108-700.

10-550 MHz Band - cont'd.

This amplifier consists of five cascaded common emitter stages followed by a feedback pair which delivers 2 v rms to R737. A divider R735, 736 couples this same signal to the detector CR701, for leveling. The leveling action keeps the voltage constant at the top of R735 thus creating a zero impedance source.

The 49.9 ohm series resistor, R737, establishes the 50 ohm output impedance and reduces the output level to 1v rms. A single R. F. Power Level control sets the level reference voltage for either band since the low band level detector is attenuated to agree with the high band for large output levels as shown in schematic 6108-600. The level loop follows modulation to above 10 kHz and then rolls off rapidly to a loop crossover at about 200 kHz.

2-1 INPUT REQUIRED FROM THE
610B MAIN FRAME

In order to have an accurately calibrated plug-in unit, the input voltages and waveforms from the 610B Main Frame must be correct. The table on the next page lists the important voltages and waveforms found at J401, the input to the plug-in located on the 610B rear panel. If the signal is incorrect or out of tolerance, the reference given along with each signal directs the operator to the appropriate section of the Recalibration Procedure. As a further aid in Recalibration, simplified signal flow diagrams (Fig. 2 D and 2 E) are given with the major stages of the 6108 and the important voltages and waveforms indicated. Prior to checking the inputs from the Main Frame, make the front panel control settings as indicated in the opposite column. Allow 15 minutes warm-up time before making any measurements or adjustments.

610B/6108 FRONT PANEL
CONTROL SETTINGS

FREQUENCY SELECTOR F1 to F2
RETRACE RF - OFF
F1 Frequency Control - 0
F2 Frequency Control - 1000 MHz
SWEEP MODE - AUTO
SWEEP TIME - 1.0 - 0.1 sec.
SWEEP TIME VERNIER - FULL CW
MODULATION - NORMAL
VAR FREQ MARKER - INTENSITY
VAR FREQ MARKER AMP - FULL CCW
RF POWER LEVEL - MAX
FREQUENCY BAND - HIGH

Recalibration Procedure - cont'd.

TABLE 2A

c) Voltages and Waveforms on J401 with the 610B/6108 front panel controls set as indicated on the previous page.

PIN NO.	VOLTAGE OR WAVEFORM	RECALIBRATION REFERENCE
2	PROGRAMMED HIGH VOLTAGE, +95 V d.c. $\pm 5\%$	610B Section 7-2
6	Level control voltage -10 to -17 V d.c. nominal range +2 to -18 V d.c. maximum range	610B Section 7-7
10	-5.6 V d.c.	610B Section 7-2
13	+30 V d.c. ± 10 mv	610B Section 7-2
15	Negative blanking to VCO +30 during sweep, 0 during retrace	610B Section 7-17
16	External level control reference voltage -0.1 V to -0.3 V d.c. nominal range	6108 Section 2-7
18	Level Detector Output Voltage -0.2 V to -0.4 V d.c. nominal range	6108 Section 2-3
19	Level Regulator Reference Voltage -0.1 V to -0.3 V d.c. nominal range	6108 Section 2-3
22	-20 V d.c. ± 10 mv	610B Section 7-2
24	Sweep Waveform, See Fig. 7C	610B Section 7-5

Recalibration Procedure - cont'd.

2-2 6108 MECHANICAL INSPECTION

- a) To obtain the best performance from the 6108, all covers should be securely attached to their subassemblies and the subassemblies mounted to the 6108 Frame.

NOTE: The cover screws on the Voltage Controlled Oscillator and the Mixer subassemblies are sealed with giptal and should not be tightened or loosened; adjustment of these screws will cause a deterioration of the 6108 overall performance.

- b) Check to see that all BNC connections are tight and that there are no broken or chaffed wires in the plug-in.
- c) Take special care to see that the 5-500 MHz R.F. AMPLIFIER is securely mounted to the 6108 main deck and that its cover is screwed on and grounded to the braiding on the main deck.

2-3 FREQUENCY CONTROL RECALIBRATION

- a) If there is any question as to the R.F. frequency being observed, the operator should refer to Section 3 of the 610B Instruction Manual for Frequency Measurement Procedures.
- b) Set FREQUENCY SELECTOR-CWF1. Set all other Front Panel controls as described in Section 2-1, Column 2. With the F1 Frequency Control set exactly on 550 MHz, check the R.F. frequency output for 550MHz $\pm$ 5 MHz.
- c) Set FREQUENCY SELECTOR-CWF1
FREQUENCY BAND - LOW
F1 Frequency Control - 10 MHz

Set all other Front panel controls as described in Section 2-1, Column 2. With the F1 Frequency Control set exactly on 10 MHz, check the R.F. output for 10 MHz $\pm$ 5 MHz.

- d) If either of the frequencies measured in Steps b and c above are out of tolerance, see Section 2-5 for the Adjustment Procedures.

2-4 LEVEL CONTROL RECALIBRATION

Set all Front Panel controls as described in Section 2-1, Column 2.

- a) Connect the 610B/6108 and a d.c. coupled oscilloscope as shown in Figure 2-A. Observe the detected R.F. output on the oscilloscope. The video should appear as shown in Fig. 2-B. The video should be flat across the band $\pm$.4 db and the Unleveled Indication light on the 610B front panel should be off.

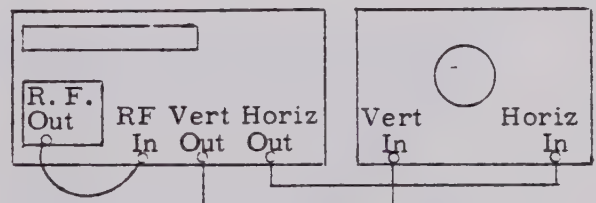


Figure 2-A
610B/6108 and D.C. OSCILLOSCOPE
TEST CONFIGURATION

Turn the R.F. Power Level Control CCW to its minimum position and observe that the R.F. stays leveled and the Unleveled light stays off.



Figure 2-B
DETECTED 6108 R.F.
AS SEEN ON AN OSCILLOSCOPE

Recalibration Procedure - cont'd.

LEVEL CONTROL RECAL. -continued-

- b) Turn the 6108 FREQUENCY BAND to LOW and repeat step a.
- c) Connect an R. F. Power Meter to the R. F. output of the 6108.
Set RETRACE R. F. to ON.
Set all the other controls as described in Section 2-1, Column 2.
The power output of the 6108 High band should be $+13 \text{ dbm} \pm .4 \text{ db}$.
- d) Turn the 6108 FREQUENCY BAND to LOW and check that the power meter reading is the same as for the high band, $\pm .4 \text{ db}$.
- e) If any of the measurements made in steps a through d are out of tolerance, see Section 2-6 for the Level Control Adjustments.

2-5 FREQUENCY CONTROL ADJUSTMENTS

- a) Connect the 610B/6108 as shown in Figure 2-C for access to internal controls.
Set FREQUENCY SELECTOR-CWF1.
Set all other Front Panel controls as described in Section 2-1, Column 2.

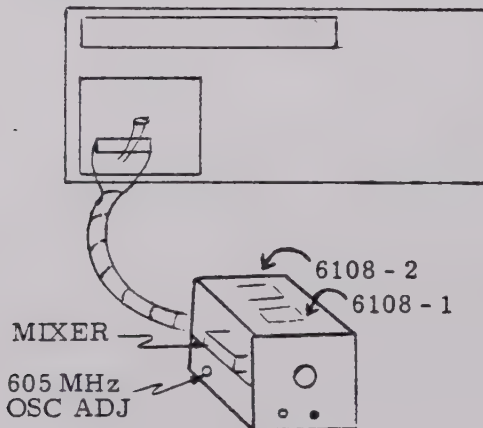


Figure 2-C

610B/6108 and EXTENDER CABLE

With the F1 control set exactly on 0 (550 on high band), adjust R811 560 MHz ADJ located on the 6108-2 Printed Card to bring the frequency of the R.F. output to $550 \text{ MHz} \pm 2 \text{ MHz}$.

- b) Set all Front Panel controls as described in Section 2-1, Column 2. Disconnect P610 from the mixer block assembly (center BNC connector with the small white coax cable) and connect it to the frequency measuring circuit being used. This is the output from the 605 MHz oscillator. The output from this oscillator should be $605 \text{ MHz} \pm 1 \text{ MHz}$. If this frequency is out of tolerance it may be adjusted by a screwdriver adjustment on the left side of the 6108 located near rear of the instrument. See Figure 2-C for the adjustment location. Re-connect the cable to the mixer after making the adjustment.

- c) Set FREQUENCY SELECTOR-CWF1. Set 6108 FREQUENCY BAND to LOW. Set all the others controls as described in Section 2-1, Column 2.

With the F1 Frequency Control set exactly on 10 MHz, adjust R853 10 MHz ADJ, located on the 6108-2 Printed Card, for an R. F. output frequency of $10 \text{ MHz} \pm 2 \text{ MHz}$.

- d) If it is impossible to accomplish any of the above steps, See Section 2-7 for Trouble Shooting suggestions.

2-6 LEVEL CONTROL ADJUSTMENTS

- a) Check Level Control Recalibration procedure Section 7-7 in the 610B manual.

Recalibration Procedure - cont'd.

2-6 Level Control Adjustments - continued-

- b) Set RETRACE R. F. to ON.

Set all the other Front Panel controls as described in Section 2-1, Column 2.

Connect the R. F. Power Meter to the R. F. output of the 6108. With the R. F. POWER LEVEL control turned Full CW, adjust R624 UPPER LEVEL LIMIT located on the 6108-2 PC for an output of +13 dbm (± 4 db).

- c) Turn the 6108 FREQUENCY BAND to LOW and adjust R618 LEVEL EQUALIZE located on the 6108-2 Printed Card for the same output as in step b preceding.

- d) Connect the 610B/6108 and a d. c. coupled oscilloscope as shown in Figure 2-A. With the 610B/6108

Front Panel controls set as described in Section 2-1, observe the detected R. F. signal as described in Section 2-4, (a). Check the Low band for a similar detected R. F. signal.

- e) Set all controls as described in Section 2-1. Turn the R. F. POWER LEVEL CONTROL CCW to its minimum position. Adjust R619 LOWER LEVEL LIMIT until the detected R. F. just becomes unlevelled and the Unlevelled Indication light on the 610B Front Panel comes on. Check for this condition on both frequency bands. On the band that will stay unlevelled when the other band is leveled, adjust R619 so that the detected R. F. is about $1/2$ db above the point where it becomes unlevelled.
- f) If it is impossible to perform any of the above steps see Sec. 2-7 for Trouble Shooting suggestions.

Recalibration Procedure - cont'd.

2-7 TROUBLE SHOOTING GUIDE

The R.F. circuitry in the 6108 is carefully adjusted and tuned at the factory for optimum performance. The exact placement of wires and components is of critical importance in the 6108 and it is therefore recommended that trouble shooting of the RF circuitry be limited to isolating the problem to a stage and having the factory repair or replace the defective stage.

Figures 2-D and 2-E should be used as a guide in isolating problems to a single stage in the instrument.

It is assumed that the 610B Main Frame is functioning correctly. (See Table 2-A for important signals from the 610B).

TABLE 2-B
6108 TROUBLE SHOOTING GUIDE

INDICATION	POSSIBLE CAUSE and REMEDY
No. R.F. output on either band.	1. Set controls as described in Sec. 2-1 and check for voltages in Table 2-A. 2. Check for loose internal coax connector. 3. Check voltages and waveforms as shown in Figure 2-D to find defective stage. 4. Defective cable connected to R.F. OUTPUT.
No R.F. output on low band, high band okay.	1. Check signals shown in Figure 2-E to find defective stage.
Low R.F. output on band.	1. See Level Recalibration Procedure, Section 2-4. 2. Defective internal detector. 3. Check for proper signal levels as shown in Figure 2-D.
LOW BAND R. F. is unleveled; high band okay.	1. Check for loose cover or other mechanical defect. See Sec. 2-2. 2. See Level Recalibration Procedure, Section 2-4. 3. Check for proper signal levels as shown in Figure 2-E.

610B/J401 - 6108/P801

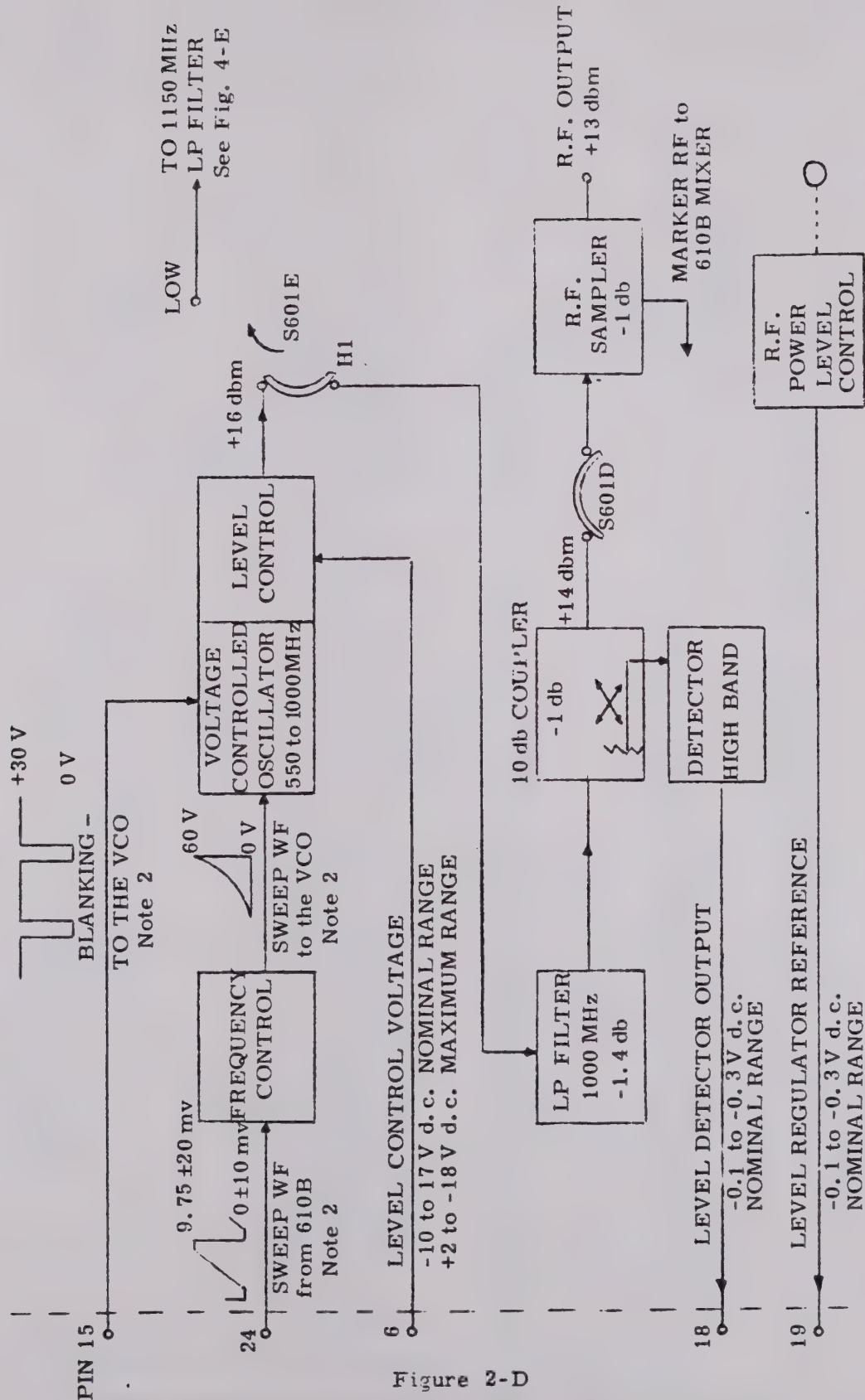
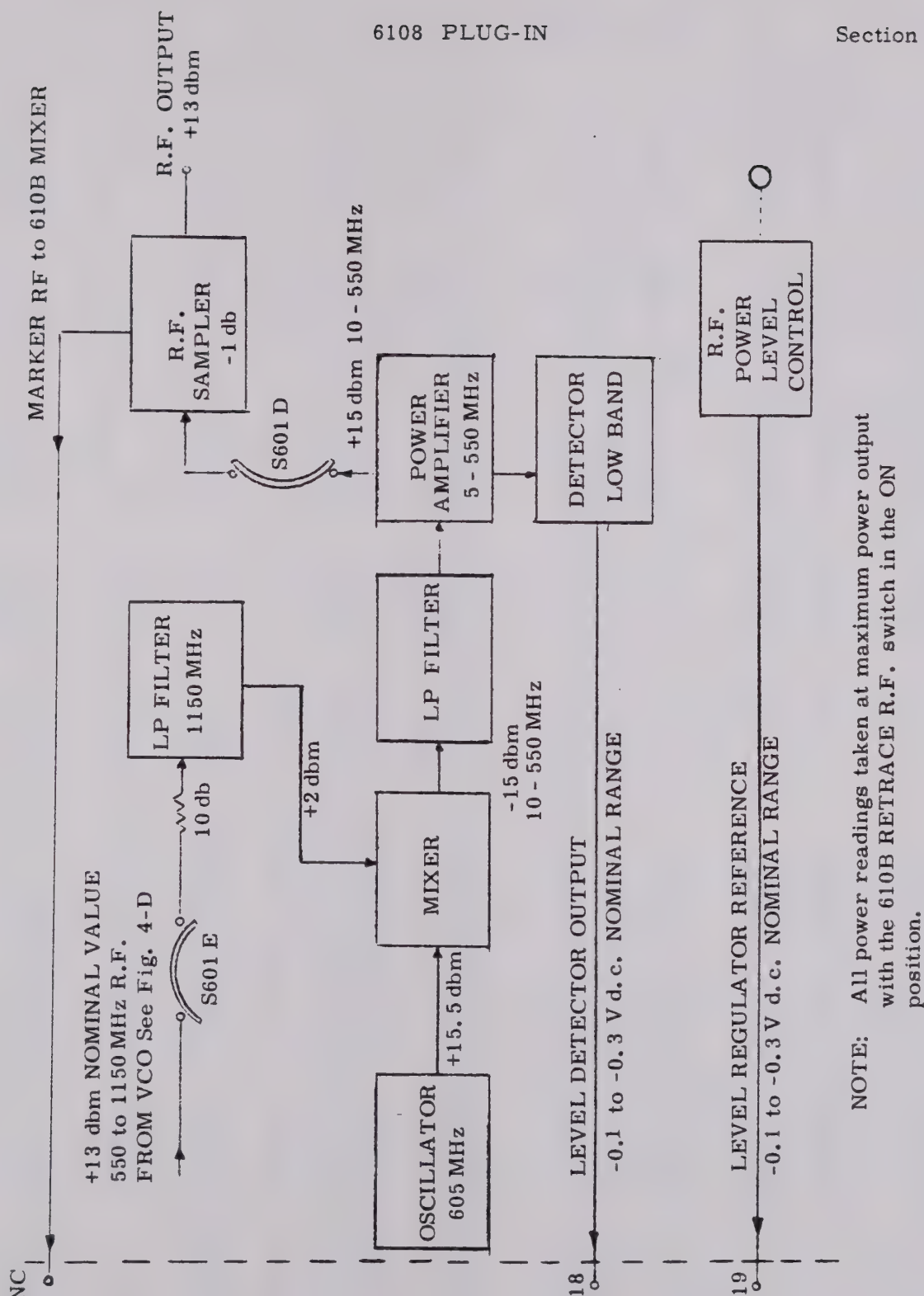


Figure 2-D

SIMPLIFIED 6108 HIGH BAND SIGNAL FLOW DIAGRAM

- NOTE: 1. All power readings taken at maximum power output with 610B RETRACE R.F. switch in the ON position.
2. Controls set as described in Section 2-1, Column 2.



NOTE: All power readings taken at maximum power output with the 610B RETRACE R.F. switch in the ON position.

Figure 2-E
SIMPLIFIED 6108 LOW BAND SIGNAL FLOW DIAGRAM

MODEL 6108 PARTS LIST

SECTION 3

Resistors						Resistors					
R601	2.74K	1/8W	1%	Fixed	Film	R716	680	1/4W	5%	Fixed	Comp
R602	150	3W	5%	Fixed	WW	R717	560	1/4W	5%	Fixed	Comp
R603						R718	68	1/4W	5%	Fixed	Comp
R604	220	3W	5%	Fixed	WW	R719	1.8K	1/4W	5%	Fixed	Comp
R605	51	1/4W	5%	Fixed	Comp	R720	820	1/4W	5%	Fixed	Comp
R606	220	3W	5%	Fixed	WW	R721	560	2W	5%	Fixed	Comp
R607	270	3W	5%	Fixed	WW	R722	100	1/2W	5%	Fixed	Comp
R608	39	1/4W	5%	Fixed	Comp	R723	36	1/4W	5%	Fixed	Comp
R609	10K	1/4W	5%	Fixed	Comp	R724	820	1/4W	5%	Fixed	Comp
R610	7.5K	1/4W	5%	Fixed	Comp	R725	1.8K	1/4W	5%	Fixed	Comp
R611	820	1/4W	5%	Fixed	Comp	R726	560	2W	5%	Fixed	Comp
R612	150	1/4W	5%	Fixed	Comp	R727	100	1/2W	5%	Fixed	Comp
R613	150	1/4W	5%	Fixed	Comp	R728	750	1/4W	5%	Fixed	Comp
R614	1K	1/4W	5%	Fixed	Comp	R729	270	1/4W	5%	Fixed	Comp
R615	750	1/4W	5%	Fixed	Comp	R730	130	1/4W	5%	Fixed	Comp
R616						R731	1K	1/4W	5%	Fixed	Comp
R617	2K	1/4W	5%	Fixed	Comp	R732	150	2W	5%	Fixed	Comp
R618	2K			Var	WW	R733	150	2W	5%	Fixed	Comp
R619	500			Var	WW	R734	110	1/4W	5%	Fixed	Comp
R620	1K	1/4W	5%	Fixed	Comp	R735	300	1/4W	5%	Fixed	Comp
R621	360	1/4W	5%	Fixed	Comp	R736	82	1/4W	5%	Fixed	Comp
R622	470	1/4W	10%	Fixed	Comp	R737	49.9	1/8W	1%	Fixed	Film
R623	15K	1/4W	5%	Fixed	Comp	R738					
R624	5K			Var	WW	R739					
R625						R740					
R626	30K	1/4W	5%	Fixed	Comp	R741					
R627	330	1/4W	5%	Fixed	Comp	R742	150	1/4W	5%	Fixed	Comp
R628	1.1K	1W	5%	Fixed	Comp	R743	36	1/4W	5%	Fixed	Comp
R629	910	1/2W	5%	Fixed	Comp	R744	150	1/4W	5%	Fixed	Comp
R630	6.2K	1/4W	5%	Fixed	Comp	R746	33	1/4W	5%	Fixed	Comp
R701	56	1/4W	5%	Fixed	Comp	R801	160K	1/4W	5%	Fixed	Comp
R702	10K	1/4W	5%	Fixed	Comp	R802	270K	1/4W	5%	Fixed	Comp
R703	1.2K	1/4W	5%	Fixed	Comp	R803	620K	1/4W	5%	Fixed	Comp
R704	1.2K	1/4W	5%	Fixed	Comp	R804	3.3K	1/4W	5%	Fixed	Comp
R705	240	1/4W	5%	Fixed	Comp	R805	3.3K	1/4W	5%	Fixed	Comp
R706	8.2K	1/4W	5%	Fixed	Comp	R806	8.2K	1W	5%	Fixed	Comp
R707	1.2K	1/4W	5%	Fixed	Comp	R807	10K	1/4W	5%	Fixed	Comp
R708	820	1/4W	5%	Fixed	Comp	R808	270	1/4W	10%	Fixed	Comp
R709	200	1/4W	5%	Fixed	Comp	R809	20K	1/8W	1%	Fixed	Film
R710	6.2K	1/4W	5%	Fixed	Comp						
R711	910	1/4W	5%	Fixed	Comp	R810					
R712	750	1/4W	5%	Fixed	Comp	R811	10K			Var	WW
R713	120	1/4W	5%	Fixed	Comp	R812					
R714	18	1/4W	5%	Fixed	Comp	R813					
R715	5.1K	1/4W	5%	Fixed	Comp						

Resistors						Resistors					
R814	10K	1/4W	1%	Fixed	Film	R848	51K	1/4W	5%	Fixed	Comp
R815	10K	1/4W	1%	Fixed	Film	R849					
R816	240K	1/4W	5%	Fixed	Comp						
R817	A thru J Factory Selected Values										
R818	1K	1/8W	1%	Fixed	Film	R850	14.7K	1/8W	1%	Fixed	Film
R819	66.5	1/8W	1%	Fixed	Film						
R820	80.6	1/8W	1%	Fixed	Film	R851	14.7K	1/8W	1%	Fixed	Film
R821	97.6	1/8W	1%	Fixed	Film	R852	37.4K	1/8W	1%	Fixed	Film
R822	93.1	1/8W	1%	Fixed	Film	R853	10K			Var	WW
R823	75.0	1/8W	1%	Fixed	Film	R854	20K	1/8W	1%	Fixed	Film
						R855	9.76K	1/8W	1%	Fixed	Film
R824	54.9	1/8W	1%	Fixed	Film						
R825	43.2	1/8W	1%	Fixed	Film	R856	20K	1/4W	5%	Fixed	Comp
R826	34.8	1/8W	1%	Fixed	Film	R857	20K	1/4W	5%	Fixed	Comp
R827	37.4	1/8W	1%	Fixed	Film						
R828	48.7	1/8W	1%	Fixed	Film	R861	2K	1/2W	5%	Fixed	Comp
						R862	2K	1/2W	5%	Fixed	Comp
R843	1K	1/4W	5%	Fixed	Comp	R863	330	1/2W	5%	Fixed	Comp
R844	1K	1/4W	5%	Fixed	Comp	R864	110	1/4W	5%	Fixed	Comp
R845	560	1/4W	5%	Fixed	Comp	R865	62	1/4W	5%	Fixed	Comp
R846	1.43K	1/8W	1%	Fixed	Film						
R847	604K	1/8W	1%	Fixed	Film	R866	110	1/4W	5%	Fixed	Comp
Capacitors						Capacitors					
C601	1000pf	500V	feed thru	Fixed	Ceram	C624	.1μf	500V	20%	Fixed	Ceram
C602	.01μf	500V	20%	Fixed	Ceram	C625	.047μf	400V	10%	Fixed	Mylar
C603	1000pf	500V	feed thru	Fixed	Ceram						
C604	1000pf	500V	feed thru	Fixed	Ceram	C701	15pf	500V	5%	Fixed	Mica
C605	1000pf	500V	feed thru	Fixed	Ceram	C702					
						C703	10pf	500V	5%	Fixed	Mica
C606	1000pf	500V	feed thru	Fixed	Ceram	C704	1000pf	500V	feed thru	Fixed	Ceram
C607	1000pf	500V	feed thru	Fixed	Ceram	C705	22pf	500V	5%	Fixed	Mica
C608	1000pf	500V	feed thru	Fixed	Ceram						
C609	1000pf	500V	feed thru	Fixed	Ceram	C706	100pf	500V	5%	Fixed	Mica
C610	27pf	500V	5%	Fixed	Mica	C707					
						C708	1000pf	500V	feed thru	Fixed	Ceram
C611	470pf	500V	feed thru	Fixed	Ceram	C709	5pf	500V	5%	Fixed	Mica
C612	.0047μf	500V	20%	Fixed	Ceram	C710	100pf	500V	5%	Fixed	Mica
C613	.001μf	1KV	10%	Fixed	Ceram						
C614	100pf	500V	5%	Fixed	Mica	C711	1000pf	500V	feed thru	Fixed	Ceram
C615	100pf	500V	5%	Fixed	Mica	C712	15pf	500V	5%	Fixed	Mica
						C713	27pf	500V	5%	Fixed	Mica
C616	.0027μf	600V	10%	Fixed	Mylar	C714	100pf	500V	5%	Fixed	Mica
C617						C715	1000pf	500V	feed thru	Fixed	Ceram
C618	.470pf	500V	5%	Fixed	Mica						
C619	.0027μf	600V	10%	Fixed	Mylar						
						C716	7pf	500V	5%	Fixed	Mica
C620	1K	1/4W	5%	Fixed	Comp	C717	100pf	500V	5%	Fixed	Mica
C621	470pf	500V	feed thru	Fixed	Ceram	C718	1000pf	500V	feed thru	Fixed	Ceram
C622	.68pf	500V	5%	Fixed	TiO2	C719	10pf	500V	5%	Fixed	Mica
C623	32μf	64V		Fixed	Elect	C720	15pf	500V	5%	Fixed	Mica

Capacitors

C721	100pf	500V	5%	Fixed	Mica
C722	1000pf	500V	feed thru	Fixed	Ceram
C723	1000pf	500V	feed thru	Fixed	Ceram
C724					
C725	5pf	500V	5%	Fixed	Mica
C726	.001μf	1KV	10%	Fixed	Ceram
C727	3.3pf	500V	5%	Fixed	TiO2
C728	1000pf	500V	feed thru	Fixed	Ceram
C729	1000pf	500V	feed thru	Fixed	Ceram
C730	.01μf	500V	20%	Fixed	Ceram
C731	.01μf	500V	20%	Fixed	Ceram
C732	.01μf	500V	20%	Fixed	Ceram
C733	1000pf	500V	feed thru	Fixed	Ceram
C734	2.2pf	500V	5%	Fixed	TiO2
C735					
C736	1000pf	500V	feed thru	Fixed	Ceram
C737	1000pf	500V	feed thru	Fixed	Ceram
C738	1000pf	500V	feed thru	Fixed	Ceram
C739	6.8μf	35V		Fixed	Elect
C740	6.8μf	35V		Fixed	Elect

Transistors

Q601	2N3568	Q706	2N5109
Q602	TA2800	Q707	TIXS39
Q603	2N3566		
Q604	2N3568		
Q605	2N3568		
Q701	FE3002	Q801	2N4249
Q702	FE3002	Q802	SE7001
Q703	FE3002	Q803	2N4045
Q704	2N3563	Q804	2N3565
Q705	2N5109	Q861	TIXS39

Diodes

CR601	HPA2900	CR701	PD0831
CR602	HPA2900	CR801 A thru J	1N4466
CR603	1N4446	CR802	1N4446
CR604	1N4446	CR803	1N4446

Inductors

L601	Wiltron No. 6108/C
L602	Wiltron No. 6108/B
L603	Wiltron No. 6108/A
L701	Wiltron No. 6108/A
L702	.33μh
L703	Wiltron No. 6108/F
L704	10μh
L705	.33μh
L706	Wiltron No. 6108/D

Capacitors

C741	6.8μf	35V		Fixed	Elect
C742	1000pf	500V	feed thru	Fixed	Ceram
C743	10pf	500V	5%	Fixed	Mica
C744	2.2pf	500V	5%	Fixed	TiO2
C745	3.3pf	500V	5%	Fixed	TiO2
C801	390pf	500V	10%	Fixed	Mica
C802	.002μf	250V	10%	Fixed	Mylar
C803	22pf	500V	5%	Fixed	Ceram
C804	7pf	500V	5%	Fixed	Mica
C807	.001μf	500V	20%	Fixed	Ceram
C810	.001μf	500V	20%	Fixed	Ceram
C861	1000pf	500V	feed thru	Fixed	Ceram
C862	1000pf	500V	feed thru	Fixed	Ceram
C863	1000pf	500V	feed thru	Fixed	Ceram
C864	.68pf	500V	5%	Fixed	TiO2
C865	.5-3pf			Var	Ceram
C866	5pf	500V	5%	Fixed	Mica
C867	5pf	500V	5%	Fixed	Mica
C868	5pf	500V	5%	Fixed	Mica
C869	5pf	500V	5%	Fixed	Mica

Inductors

L707	Wiltron No. 6108/D
L708	.33μh
L709	Wiltron No. 6108/D
L710	10μh
L711	.33μh
L712	Wiltron No. 6108/F
L713	10μh
L714	Wiltron No. 6108-S-847
L715	.33μh
L716	Wiltron No. 6108-S-847
L717	10μh
L718	Wiltron No. 6108-S-847
L719	10μh
L720	.33μh
L721	Wiltron No. 6108-S-847
L722	10μh
L723	.33μh
L724	Wiltron No. 6108/E
L725	Wiltron No. 6108-S-847
L861	Wiltron No. 6108-S-805
L862	Wiltron No. 6108-S-805
L863	Wiltron No. 6108/D
L864	Wiltron No. 6108/D
L865	Wiltron No. 6108/E

Transformer

T861 Wiltron No. 6108-S-798

Miscellaneous

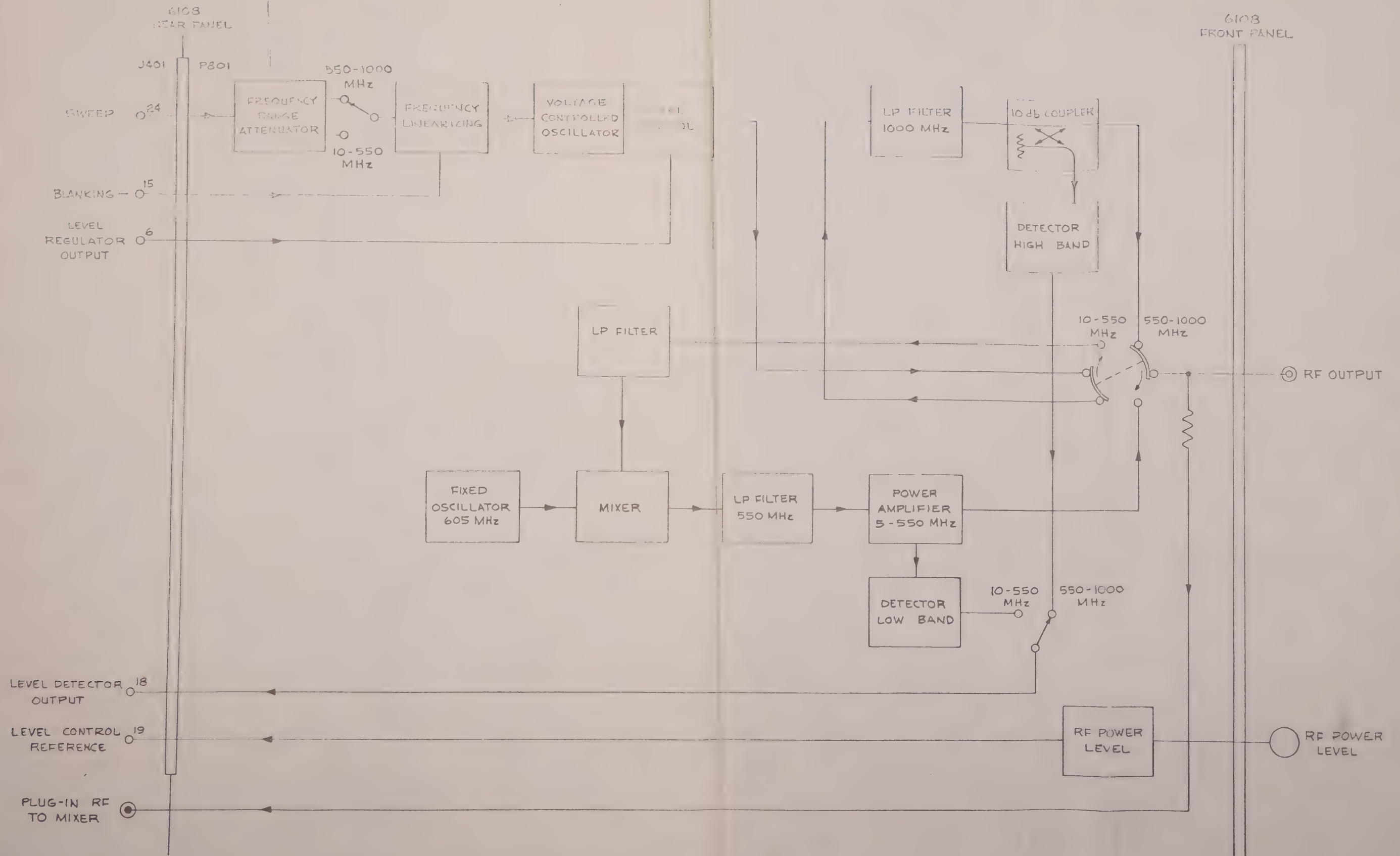
J801 UG-556B/U
P801 Amphenol 26-159-24
LATCH Southco 48-10-101-10

RF Components

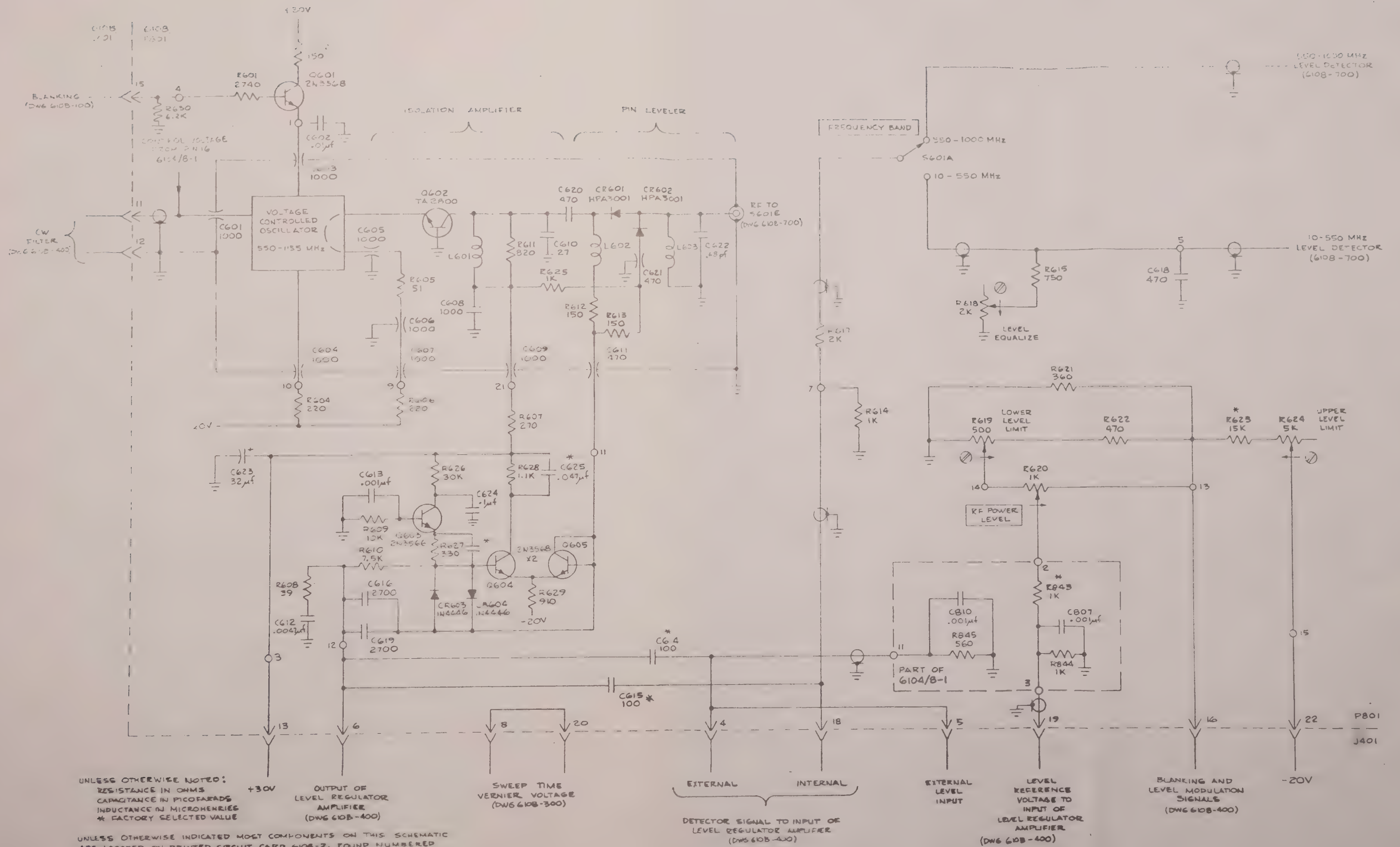
550 to 1155 MHz VCO Wiltron No. 6108-MS-246
RF Mixer Assembly Wiltron No.
10db Coupler Wiltron No.
High Band Detector Wiltron No. 61D
1155 MHz LP Filter Telonic TLP115-8AB1

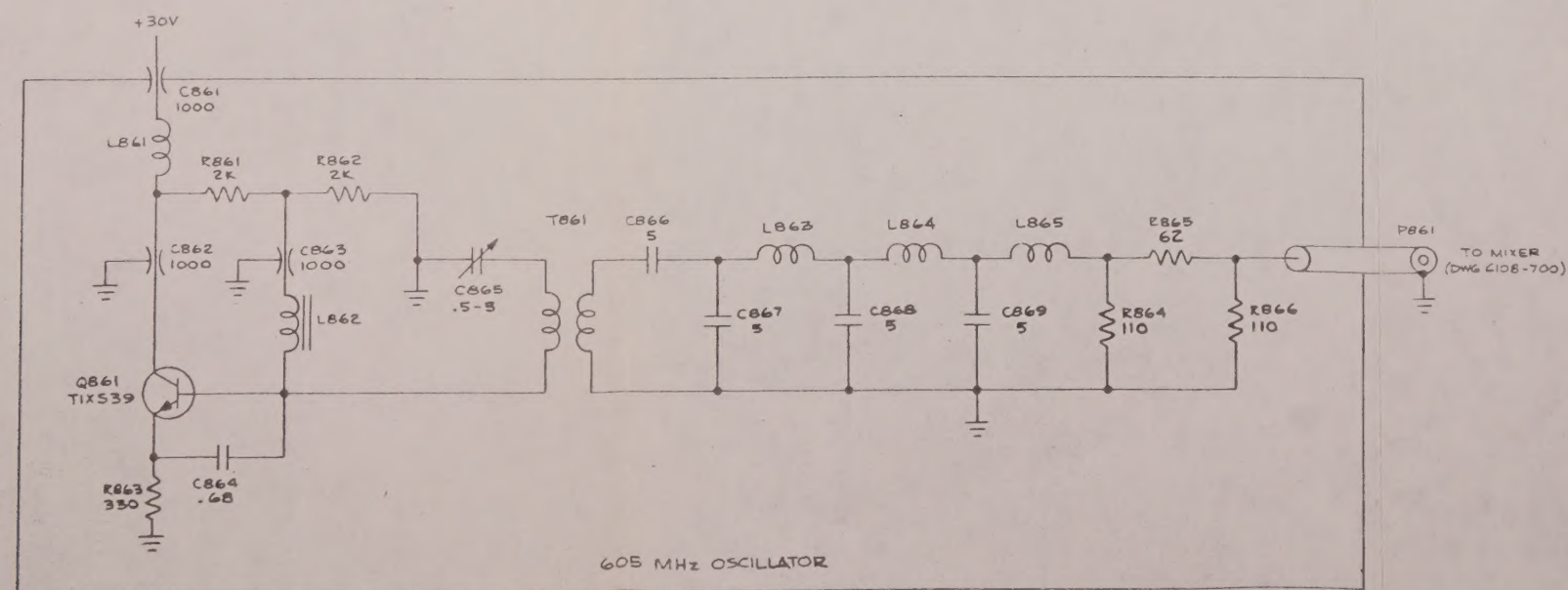
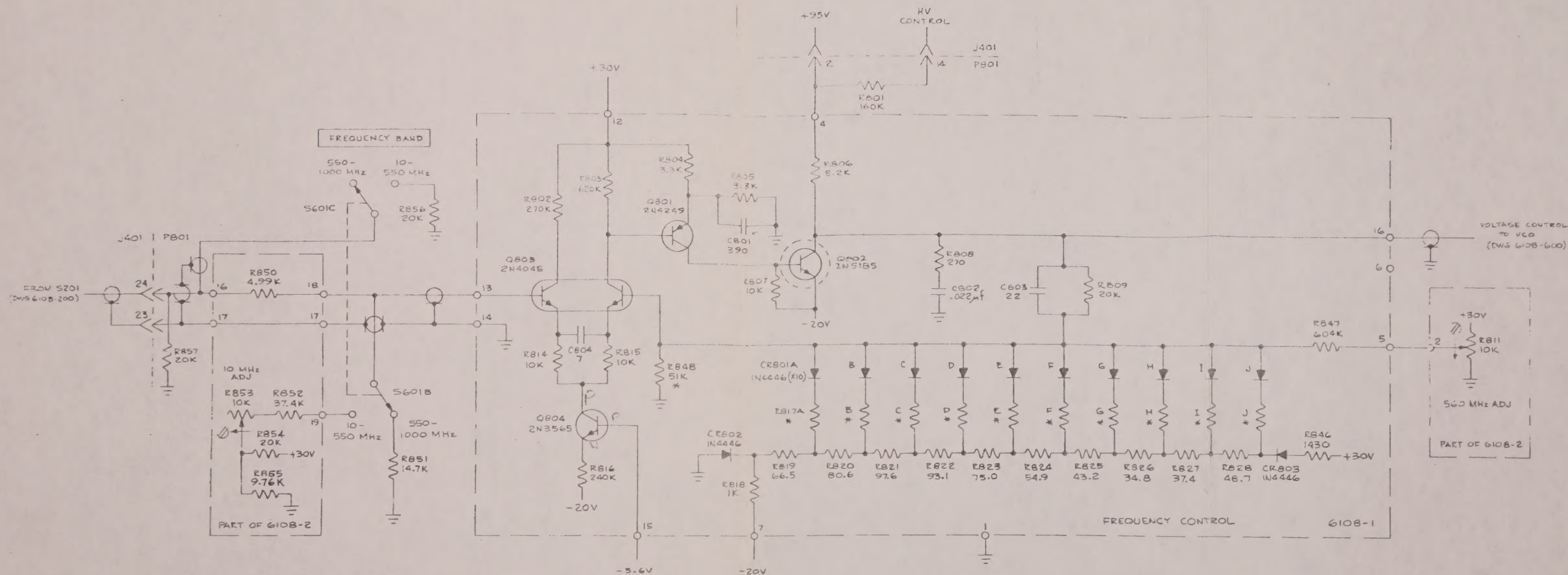
1000 MHz LP Filter Telonic TLP1000-8AB1
550 MHz LP Filter Telonic TLP550-8AB1
10 db Pad Texscan FP-50
S601-RF Switch Telonic SW-20
Signal Sampler Wiltron No. 6108-S-797

RF Cables Wiltron No. 6108-S-804D



6108 FLOW DIAGRAM

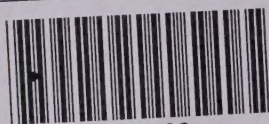




UNLESS OTHERWISE NOTED
RESISTANCE IN OHMS
CAPACITANCE IN PICO FARADS
* FACTORY SELECTED VALUE

FREQUENCY CONTROL AND 605 MHz OSCILLATOR

www.manualsplus.com



1025506